

**REMARKS/ARGUMENTS**

Reconsideration and allowance of the subject application are respectfully requested.

The Examiner objects to claims 4-8 and 12 under 37 CFR §1.75(c) as being improper form because a multiple dependent claim cannot depend from another multiple dependent claim.

The Examiner has apparently overlooked the preliminary amendment filed, together with the original application on January 5, 2004. A copy of that preliminary amendment, as well as the postcard receipt, is attached with this amendment. In that preliminary amendment, the specification was amended to specifically make reference to the parent application from which this divisional application claims priority under 35 U.S.C. §120. The claims were also amended to cancel claims 1-8 and made minor non-limiting amendments to claims 9-12. There are no multiple dependencies in claims 9-12.

With regard to formal matters, Applicants respectfully request that the Examiner acknowledge the claim for priority under 35 U.S.C. §119, as well as receipt of the certified copy of the priority document received in the parent application.

Applicants also submit an Information Disclosure Statement bringing to the Examiner's attention a reference cited in a corresponding application in China. This submission along with the requisite \$180.00 fee is believed to be timely since the examination occurred on claims that were not actually pending and for which the examination was requested. A copy of an initialled 1449 Form is requested in the next communication.

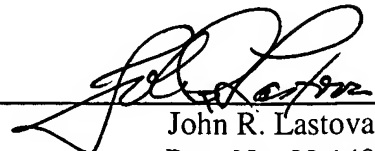
The application is in condition for allowance. An early notice to that effect is earnestly solicited.

HALLBJÖRNER et al.  
Appl. No. 10/750,900  
March 2, 2005

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By:

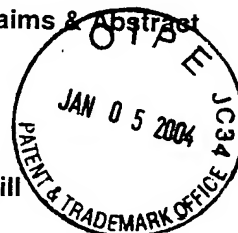
A handwritten signature in black ink, appearing to read "John R. Lastova", is written over a horizontal line.

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Serial No. New Patent Application C#/M#: 4127-8  
Applicant: Serial No.: to be assigned Date: January 5, 2004  
Title: Inventor/s: HALLBJÖRNER et al. Atty: JRL  
Title: MICRO ELECTROMECHANICAL SWITCHES  
X Preliminary Amendment  
23 Pages Specification, claims & Abstract  
Claims  
5 Sheets of Drawings  
Priority Document(s)  
\$ Fee (Check) - Pre-Bill  
\$770.00 Fee (Check) - Non Pre-Bill  
\$770.00 Total Fee Enclosed  
Other: Transmittal, copy of signed declaration, PTO-1449



Other:



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of

HALLBJÖRNER et al.

Atty. Ref.: 4127-8; Confirmation No.

Appl. No. to be assigned

Group: to be assigned

Filed: Herewith

Examiner: to be assigned

For: MICRO ELECTROMECHANICAL SWITCHES

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January 5, 2004

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**PRELIMINARY AMENDMENT**

In order to place the above-identified application in better condition for examination, please amend the application as follows:

**AMENDMENTS TO THE SPECIFICATION:**

Please insert the following paragraph before the first line on page 1:

This application is a divisional of Application No. 10/112,046, filed April 1, 2002, the entire content of which is incorporated herein by reference.

Please amend the paragraph beginning at page 9, line 6, as follows:

By putting the reconfiguration element in an active state, shown in Figure 2B, the MEMS switch will display a second type of behaviour based on the changed parameter(s). The reconfiguration beam 211 will bend towards the reconfiguration actuation electrode 215. By bending, the reconfiguration beam 211 will exert a force 231 on the switch beam support 205, bending the switch beam support 205, thus lifting the switching beam 201 further away from the actuation/signal electrode 209, i.e. go increases. The switch beam support 205 has to at least be so ductile that the force 231 will influence the switch beam support 205 and transfer this influence to the switching beam 201. The reconfiguration beam support 213 is preferably of an ~~aether~~ anchor type, i.e. rigid enough to not be influenced to a ~~noticeable~~ noticeable extent. If the reconfiguration beam support 213 is of an anchor type, then most of the force generated by the bending of the reconfiguration beam 211 will influence the switch beam support 205. If the reconfiguration beam support 212, 213 is not of an anchor type, then the force 231 will be smaller, which could be desirable in some embodiments.

Please amend the paragraph beginning at page 9, line 24, as follows:

By providing a reconfiguration element according to the invention, and having a ductile switch beam support 204, 205 on a cantilever MEMS switch, it is possible to control go in at least two different steps. If it is possible to bend the reconfiguration beam 210, 211 continuously, then a continuous change of go is attained. A change of go will mainly change the required actuation voltage of the MEMS switch, i.e. according to this embodiment of the invention it is possible to control, dynamically or in a static manner, the required actuation voltage to activate the MEMS switch. This will enable a higher yield of MEMS circuits, since even circuits which do not fall within the required ~~specifications~~ specification from the start can be trimmed by reconfiguration elements. The same MEMS switch can be used in different applications requiring different characteristics/specifications. A transceiver can use the same MEMS switches for both reception and transmission. During reception the reconfiguration element is inactive since there is not much power flowing through a signal electrode of the MEMS switch, and during transmission the reconfiguration element becomes active to allow the MEMS switch to handle more power without becoming unintentionally activated.

Please delete pages 15-18.

AMENDMENTS TO THE ABSTRACT:

Please amend the Abstract as follows:

Characteristics of micro electromechanical switches can be changed ~~according to the invention~~ by applying a control signal which either changes one or more parameters of the micro electromechanical switches or which controls beam movement by feedback signals. It is thereby possible to change switching transient time, maximum switching frequency, power tolerance, and/or sensitivity (actuation voltage) of a micro electromechanical switch.

(Fig. 3)

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-8. (Cancelled).

9. (Currently Amended) A micro electromechanical switching arrangement, comprising:

a switching element ~~comprising~~ including a first support, an actuator control electrode, and a switching beam having a first end and a second end, the first end of the switching beam being supported by the first support, ~~characterized in that the micro electromechanical switching arrangement further comprises:~~

[-] a switching beam position measurement device, ~~which generates~~ for generating a beam position signal related to a position of the switching beam in relation to a position of the actuator control electrode; and

[-] an actuator control signal unit, ~~which generates~~ for generating an actuator control signal in dependence on the beam position signal and a desired switching beam position signal, the actuator control signal being coupled to the actuator control electrode.

10. (Currently Amended) The micro electromechanical switching arrangement according to claim 9, ~~characterized in that~~ wherein [-] the switching element further comprises a second support, the second end of the switching beam being supported by the second support.



11. (Currently Amended) The micro electromechanical switching arrangement according to claim 9, ~~characterized in that:~~ wherein [-] the switching beam position measurement device ~~utilizes~~ is configured to use capacitive measurement methods for generating the beam position signal.

12. (Currently Amended) The micro electromechanical switching arrangement according to claim 9, ~~characterized in that:~~ wherein [-] the switching beam position measurement device comprises a variable capacitance element and a Wheatstone bridge in which the variable capacitive device is one element.

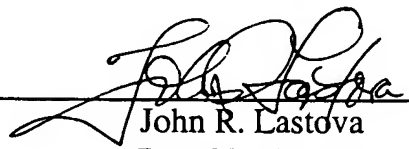
HALLBJÖRNER et al.  
Appl. No. to be assigned  
January 5, 2004

**REMARKS**

Amendments have been made to the specification and claims. Claims 1-9 are cancelled having been allowed in the parent application. The amendments to patentably distinct claims 9-12 are not narrowing amendments and do not surrender originally claimed subject matter. Favorable examination is respectfully requested.

Respectfully submitted,

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